Register Number:……..

KUMARAGURU college of technology
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B. TECH DEGREE EXAMINATIONS: DEC 2022

(Regulation 2018)

Fifth Semester

TEXTILE TECHNOLOGY

U18TXT5002: Textile and Apparel Quality Evaluation

COURSE OUTCOMES

CO1: Describe the concepts of quality and statistical application in textiles.
CO2: Explain the measurement of fibre properties.
CO3: Explain the measurement of yarn properties.
CO4: Summarize the working Principle of fabric testing instruments.
CO5: Summarize on the Garment test procedures.

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Consider the elements in List I and List II and choose the correct alternatives from amongst a, b, c, and d — CO1 [K_3]

List I	List II
A. Zoning technique	i. Slubs
B. Manufacturing-based quality	ii. Fibres
C. Value-based quality	iii. Trigger
D. Quality of design	iv. SITRA

	A	B	C	D
a)	ii	i	iii	iv
b)	iii	iv	ii	i
c)	ii	iv	iii	i
d)	iii	i	ii	iv

2. Tell the correct sequence/order in AFIS instrument from below options: CO2 [K_2]

1. Sliver feed
2. Perforated cylinder
3. Optical rays
4. Cleaning and combing flats

a) 2-1-4-3 b) 3-2-1-4

c) 3-4-1-2 d) 4-1-2-3

3. Pick the negative ones out, about Fabric Quality Inspection system followed in Textile Industries. CO4 [K_3]

1. The various fabric inspection systems used in the garments industry are Four-point system, Ten-point system, Graniteville "78" system and Dallas system.
2. In 10-point system, the cloth is inspected on face side only unless specified and penalty point of 2 is given for holes defect.
3. In 4-point system, warp & weft direction faults are separately inspected and assigned defect points.
4. In 10-point system, if the total defect points per 100 yards of fabric are 100 or more the fabric will be rejected

a) 1,3 b) 1,4

c) 1,2 d) 2,3

4. Manipulate, average number of 3 decitex fibres approximately in a yarn of 20s Ne. CO1 [K_1]

a) 10 b) 100

c) 50 d) 200

5. Determine the correctness of the following Assertion [A] & Reason [R] CO2 [K_2]

[A] HVI provides basic single fibre information and is distinguished from earlier and existing methods.

[R] The working of AFIS is controlled by fibre individualizer motor, feed motor, sliver detector and electro-optical sensors.

a) Both A and R are Individually true and R is the correct explanation of A

b) Both A and R are Individually true but R is not the correct explanation of A

c) A is true but R is false

d) A is false but R is true

6. In a twist – untwist method to determine yarn twist using 10-inch sample, 400 rotations of a jaw are required to complete the test. TPI in the yarn is CO3 [K_1]

a) 80 b) 40

c) 20 d) 10

7. Give the correct sequence of Inspection cycle followed in Garment Industries: CO5 [K_2]

1. Determination of causes of defects, 2. Detection of defects, 3. Correction of the defects, 4. Inform defects to appropriate personnel

a) 2-3-1-4 b) 2-4-1-3

c) 4-3-1-2 d) 4-1-3-2

8. With respect to fabric tear strength, pick the statement that is correct. CO4 [K_3]

a) Tear strength does not depend upon weave and set

b) Tear strength depends upon thread strength

c) Tear strength of Twill weave > tear strength of plain weave

d) Tear strength of high set fabric > tear strength of low set fabric

9. Assertion (A): Seam Strength is the maximum resistance to rupture at the juncture formed by stitching together two or more planar materials. CO5 [K_2]

Reason (R): Seam strength and Seam Stretchability are tested in a lateral direction using a CRE machine such as an Instron tester.

a) Both A and R are Individually true and R is the correct explanation of A

b) Both A and R are Individually true but R is not the correct explanation of A

c) A is true but R is false

d) A is false but R is true

10. Tell the correct sequence/order from below options in which, the periodic faults generation possibility increases due to the textile machineries and its process. CO3 [K_3]

1. Roving frame
2. Ring spinning
3. Carding
4. Draw frame

a) 2-1-4-3 b) 4-1-2-3

c) 3-2-1-4 d) 3-4-1-2

PART B (10 x 2 = 20 Marks)
(Answer not more than 40 words)

11.	Appraise on Check Sheet used in Quality Control Process.		CO1	[K_2]
12.	Define uniformity ratio of textile fibre.		CO1	[K_1]
13.	Tabulate the principles used in different HVI test modules.		CO2	[K_1]
14.	Give the geometrical construction steps used in fibre length measurements.		CO2	[K_2]
15.	Find out the irregularity in the yarn from the following data: Lea weight: 1.64, 1.62, 1.68, 1.60, 1.65, 1.67, 1.62		CO3	[K_3]
16.	Write the principle of Tensojet Tensile Tester.		CO3	[K_2]
17.	Pen down on the end points of Abrasion Tester.		CO4	[K_2]
18.	Appraise on the primary hand properties accounted for women's thin dress fabrics.		CO4	[K_3]
19.	Outline the factors that are influencing in testing of seam strength.		CO5	[K_3]
20.	Appraise on the testing of fusible interlinings.		CO5	[K_1]

Answer any FIVE Questions:-
PART C (5 x 14 = 70 Marks)
(Answer not more than 350 words)

21.	a)	Outline the various definitions and types of quality, also give the QA program flow sketch.	(07)	CO1	[K_2]
	b)	Explore on the Quality systems and statistical tools used in Textile industries.	(07)	CO1	[K_3]
22.	Elaborate the following with neat sketch,				
	a)	Fibre Fineness tester	(07)	CO2	[K_2]
	b)	AFIS instrument	(07)	CO2	[K_2]
23.	a)	Discuss in detail about the Uster Classimate fault analysis.	(07)	CO3	[K_2]
	b)	Elucidate about the Yarn Twist tester with a neat sketch.	(07)	CO3	[K_1]
24.	a)	Explain in detail about the bursting strength tester with a neat sketch.	(07)	CO4	[K_2]
	b)	Elaborate different types of dimensional changes that occur in the textile materials, with necessary illustration.	(07)	CO4	[K_3]
25.	a)	Discuss in detail about the AQL quality standards in Garment Industries with a necessary table.	(07)	CO5	[K_3]
	b)	Explain on the testing of zippers with the necessary diagram.	(07)	CO5	[K_1]
26.	a)	Explain on the fabric pilling test with the necessary diagram.	(07)	CO4	[K_2]
	b)	Explain on the analysis of permeability properties of textile fabrics.	(07)	CO4	[K_2]

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